

Erosion Control & Landscape Contractor Meeting

Caltrans Projects Compliance with New Construction General Permit



February 16, 2011

Presenter

Hamid Hakim, Division of Construction
Construction Stormwater Management



Agenda

- ◆ Construction General Permit (CGP) – Definition & Intent
- ◆ Significant Differences Between Old and New CGP
- ◆ Transition Requirements for Caltrans Projects
- ◆ Manuals, Templates, and Forms
- ◆ Questions and Answers

Construction General Permit (CGP)

- ◆ What is the Construction General Permit?
- ◆ The intent of CGP is to protect receiving waters from pollutants from construction site stormwater and non-stormwater discharges.

Protect Receiving Water From....



Protect Receiving Water From....



Protect Receiving Water From....



Protect Receiving Water From....



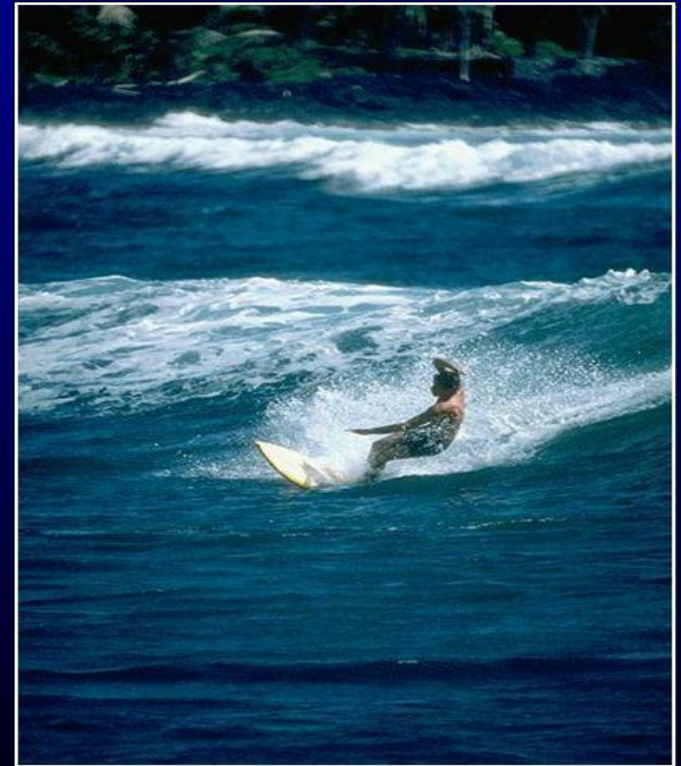
Construction General Permit (CGP)

- ◆ Compliance with the CGP is required by the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit.
- ◆ CGP is regulated by the State Water Resources Control Board.
- ◆ CGP is enforced by the Regional Water Quality Control Boards.
- ◆ CGP impacts all Caltrans functional units involved in project delivery, as well as Encroachment Permits and Maintenance.

Construction General Permit (CGP)

National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities

- ◆ Order No. 2009-0009-DWQ NPDES No. CAS000002
- ◆ Adopted by State Water Resources Control Board on September 2, 2009
- ◆ Order Became Effective on July 1, 2010



Construction General Permit (CGP)

- ◆ The new CGP impacts all Caltrans constructions projects with 1 acre or more soil disturbance

Except:

- ◆ Construction Projects In the Lake Tahoe Hydrologic Unit
- ◆ Routine Maintenance Projects
- ◆ Projects with 1-5 acres of soil disturbance where the $R < 5$ (Rainfall Erosivity Waiver)
 - ✧ R = Rainfall-runoff erosivity factor in the RUSLE.

Significant Changes to CGP

- ◆ Electronic Signature and Certification Requirements
- ◆ Risk-Based Permitting Approach
- ◆ Rainfall Erosivity Waiver (1-5 acre $R < 5$)
- ◆ Certification/Training Requirements for Storm Water Pollution Prevention Plan (SWPPP) Developers and Practitioners
- ◆ Soil stabilization and sediment control for inactive areas (14 days)

Significant Changes to CGP

- ◆ Year-round soil stabilization and sediment control for DSA and stockpiles
- ◆ Weekly Site Inspections
- ◆ Rain Event Action Plan
- ◆ Discharge (Effluent) Monitoring and Reporting

Significant Changes to CGP

- ◆ Technology-Based Numeric Action Levels (NAL) for pH & turbidity
- ◆ Technology-Based Numeric Effluent Limitations (NEL) for pH and turbidity
- ◆ Receiving Water Monitoring and Reporting
- ◆ Post-Construction Storm Water Performance Standards
- ◆ Project Annual Reporting

Project Risk Level Determination

◆ Sediment Risk (Soil loss using RUSLE)

✧ RUSLE: $A = R.K.LS.C.P$

✧ A = rate of sheet and rill erosion

✧ R = rainfall-runoff erosivity factor

✧ K = soil erodibility factor

✧ LS = length-slope factor

✧ C = cover factor (erosion controls)

✧ P = management operations and support practices (sediment controls)

✧ Project Sediment Risk = $R.K.LS$, this will estimate the project-related bare ground soil loss in tons/acre

Project Risk Level Determination

- ◆ Receiving Water Risk
 - ✧ On 303-d list of impaired by sediment, or
 - ✧ Has a USEPA Total Maximum Daily Load (TMDL) plan for sediment, or
 - ✧ Has beneficial uses for COLD, SPAWN, and MIGRATORY

Project Risk Level Determination

◆ Risk Levels (RL)

		Receiving Water Risk	
		Low	High
Sediment Risk	Low	RL 1	RL 2
	Medium	RL 2	RL 2
	High	RL 2	RL 3

Certification/Training Requirements

- ◆ The qualified SWPPP developer (QSD) must be registered or certified for at least one of the following:
 1. California registered civil engineer
 2. California registered professional geologist or engineering geologist
 3. California licensed Landscape Architect
 4. Professional hydrologist registered through the American Institute of Hydrology
 5. Certified Professional in Erosion and Sediment Control (CPESC)[™] registered through Enviro Cert International, Inc.
 6. Certified Professional in Storm Water Quality (CPSWQ)[™] registered through Enviro Cert International, Inc.
 7. Professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET)

Certification/Training Requirements

- ◆ The qualified SWPPP practitioner (QSP) must be certified for at least one of the following:
 1. Certified Erosion, Sediment and Storm Water Inspector (CESSWI)[™] registered through Enviro Cert International, Inc.
 2. Certified Inspector of Sediment and Erosion Control (CISEC) registered through CISEC, Inc.

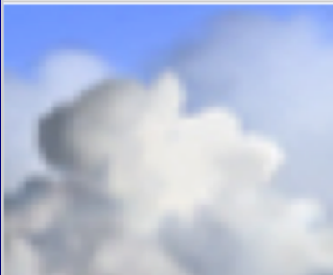
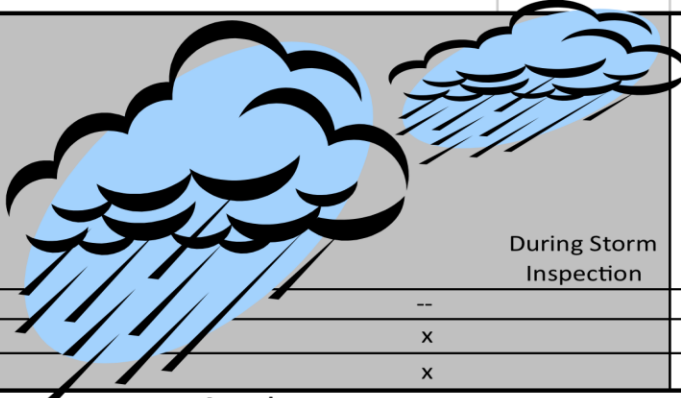


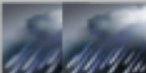
Caltrans Water Pollution Control Manager (WPCM)

- ◆ The WPCM must be a QSP whenever the project requires a WPCP or be a QSD whenever the project requires a SWPPP.
- ◆ In addition to the training and certifications specified by the CGP, Caltrans requires the following:
 - ✧ The QSD or QSP must have completed the storm water management training described in the Departments “Storm Water and Water Pollution Control” website.

Soil Stabilization and Sedimentation

- ◆ Year-round soil stabilization and sediment control for DSA and stockpiles
 - ✧ Install water pollution control practices within 72 hours of stockpiling material or before a forecasted storm event, whichever occurs first.
 - ✧ When stockpiles are being used, do not allow soil, sediment, or other debris to enter storm drains, open drainages, and watercourses.

REAP and Discharge Monitoring

Types of "Storms"								
Shower =	Between 0.0 and 0.1 inches							
Storm Event =	Greater than 0.1 inches/24 hours							
Qualifying Rain Event =	Greater than 0.5 inches							
	Forecast							
	REAP*	Pre- storm Inspection			During Storm Inspection	Post-storm Inspection	Sampling & Analysis*	Non-visible Sampling & Analysis
	Shower	--	--	--	--	--	--	--
	Storm Event	x	x	x	--	--	--	x
	Qualifying Rain Event	x	x	x	x	x	x	x
	Forecast		Actual					
Shower	--	--		Shower	--	--	--	--
Storm Event	x	x		--	--	--	--	
Qualifying Rain Event	x	x		--	--	--	--	
Shower	--	--		Storm Event	X	--	--	X
Storm Event	x	x		x	--	--	x	
Qualifying Rain Event	x	x		x	--	--	x	
Shower	--	--		Qualifying Rain Event	X	X	X	X
Storm Event	x	x		x	X	X	x	
Qualifying Rain Event	x	x		x	x	x	x	
* Only applies to Risk Levels 2 and 3.								
The CGP requires a REAP when there is a chance of precipitation of 50% or greater; it does not talk about the amount.								
A REAP is a written plan for protection of all exposed portions of the site and has to be implemented within 48 hours of								
ANY LIKELY PRECIPITATION EVENT FORECAST OF 50% OR GREATER PROBABILITY.								

Sampling & Analysis

◆ Numeric Action Levels

✧ Risk Level 2 and 3 projects

- ✧ $6.5 > \text{Stormwater discharge pH} > 8.5$

- ✧ Stormwater discharge $> 250 \text{ NTU}$

◆ Numeric Effluent Limitations

✧ Risk Level 3 projects

- ✧ $6.0 > \text{Stormwater discharge pH} > 9.0$

- ✧ Stormwater discharge $> 500 \text{ NTU}$

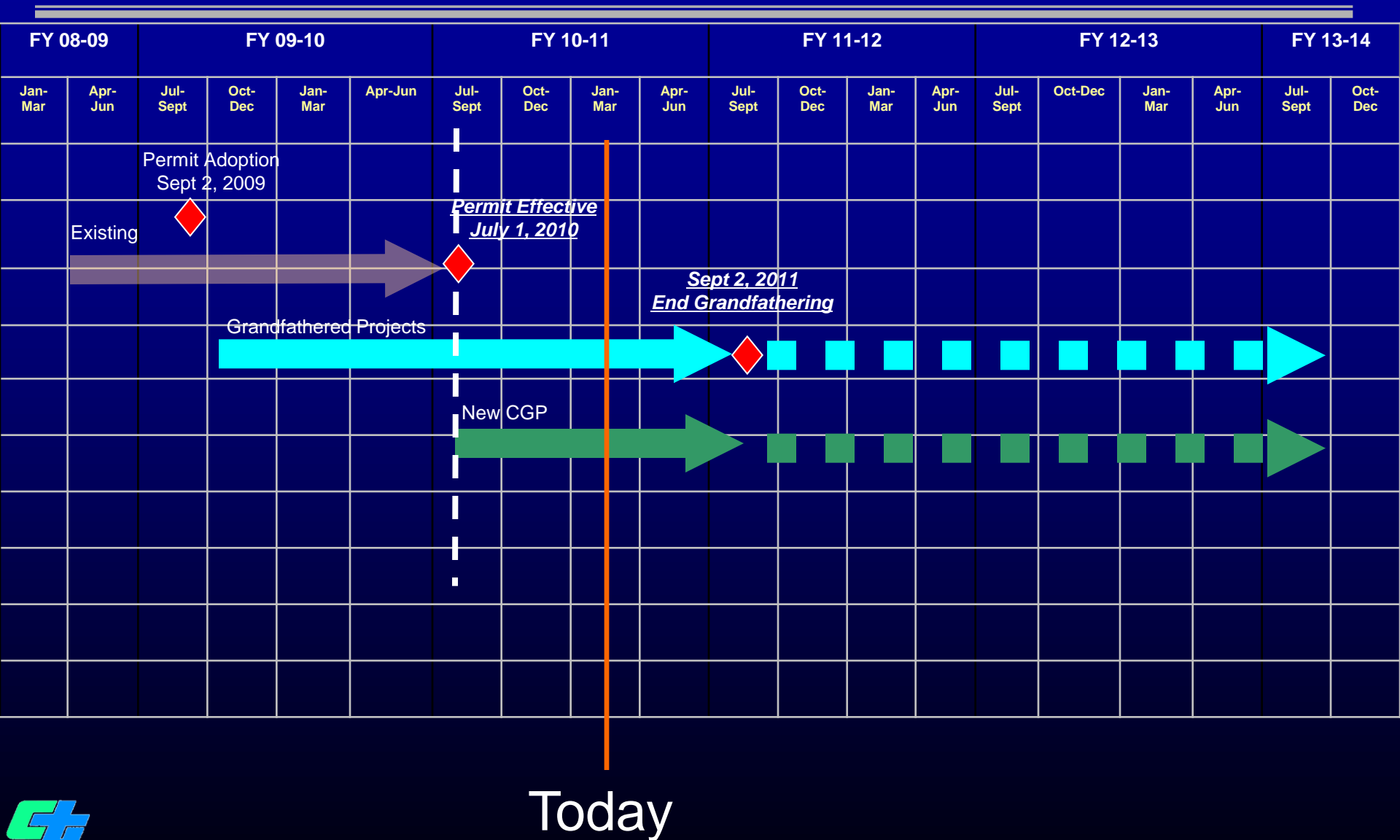
Turbidity



Annual Reporting

- ◆ Summary and analysis of all sampling data
- ◆ Summary of all corrective actions
- ◆ Compliance activities or corrective actions not taken
- ◆ Summary of all exceedances and violations of the permit
- ◆ All visual, stormwater discharges and receiving water inspections reports
- ◆ Personal training information

Transition from Old to New CGP



Implementation of New CGP

- ◆ CPD 10-4
 - ✧ Implementation of New CGP (Risk Level 1 Projects)
- ◆ CPD 10-9
 - ✧ Implementation of New CGP (Risk Level 2 and 3 Projects)
- ◆ More directives to follow..

CPDs available at:
<http://www.dot.ca.gov/hq/constructuc/>

Memorandum

State of California
DEPARTMENT OF TRANSPORTATION

To: DEPUTY DISTRICT DIRECTORS, Construction
DEPUTY DIVISION CHIEF, Structure Construction
CONSTRUCTION MANAGERS
SENIOR CONSTRUCTION ENGINEERS
RESIDENT ENGINEERS
CONSTRUCTION STORMWATER COORDINATORS

From: MARK LEIA
for: Chief
Division of Construction

Date: May 24, 2010

File: Division of Construction
CPD 10-4

Subject: Implementation of New Construction General Permit

The National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges As Discharges (DWAQ) NPDES was adopted and implemented on July 1, 2010. The new CGP (CPD 10-4) supersedes the July 1, 2010, 1 the new CGP (CPD 10-4).

Major changes and Analysis of stabilization at be re-disturbed reporting.

Ongoing project Tule Lake Hydroelectric projects in the the CPD. Also or to one-to fit

The new CGP September 2, 2 (RWQCB). The instructions for higher-risk req

To comply with information to additional mob control best m adjustments of

CONTRACT CHANGE ORDER

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CEN 400 (REV. 05/2011) CTA 041-2001-0

CONTRACT NO. ROAD
FEDERAL NUMBER
CONTRACT NUMBER
CONTRACTOR

RECORD OF BLANKET PRIOR APPROVAL FOR MAJOR CONTRACT CHANGE ORDER

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION CALIFORNIA DIVISION OFFICE

PROJECT NO. Statewide
CCO NO. Various
CONTRACT NO. Any Federally Funded Project
DIST. CO. ITEM. Various
DATE: May 20, 2010

REQUESTED BY: ☒ CALTRANS HQ
Chuck Suzuki

PROPOSED CHANGE:
Revise contract language on projects subject to National Pollution Discharge System (NPDES) General Permit Order for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-009-DWAQ, NPDES CAS0000002) commonly referred to as Construction General Permit (CGP), effective July 1, 2010. The contractor will be compensated by Extra Work at Force Account for any additional mobilization or item price adjustments caused by the installation of soil stabilization and sediment controls on small areas versus the larger areas previously allowed by specification rainy season definition. Contract time should not be extended by this change. If any change in contract time is anticipated, the Resident Engineer will have to apply for necessary FHWA and state approvals to execute the contract change order.

REASON FOR CHANGE:
On September 9, 2009 the Water Resources Control Board adopted the CGP. The new CGP supersedes the existing CGP (Order No. 99-08 DWAQ) and the change order provides instructions on how to implement the new CGP for ongoing projects with Storm Water Pollution Prevention Plans prior to July 1, 2010.

The major changes of the new CGP are:

1. elimination of the rainy season in special provisions
2. replacement of Sampling and Analysis Plan with Construction Site Monitoring Program
3. change existing 21 day requirement to 14 day requirement for soil stabilization and sediment controls to be installed on inactive areas
4. Risk based approach to storm water protection

AS DISCUSSED IN FIELD (REPORT NO.) Not Applicable

TIME EXTENSIONS: ☒ NONE ☐ DAY ☐ DEFERRED
ACTIVITY ON CRITICAL PATH AFFECTED BY CCO (IF TIME EXTENSION INVOLVED) Not Applicable

ESTIMATE OF COST: \$ varies ☒ INCREASE ☐ DECREASE
METHOD OF PAYMENT: ☒ CONTRACT ☐ ADJUSTMENT OF COMPENSATION ☐ AGREED PRICE ☐ EXTRA WORK AT FORCE ACCOUNT

THE WORK COVERED BY THE PROPOSED REVISION AS DESCRIBED ABOVE IS APPROVED SUBJECT TO SUBMISSION OF SUPPORTING DOCUMENTATION INCLUDING COST EVALUATION AND JUSTIFICATION OF TIME EXTENSIONS.

OTHER CONDITIONS: None

PRIOR APPROVAL TO BE PROCURED GRANTED BY: ERIC WORRELL, P.E.
Transportation Engineer

DATE OF AUTHORIZATION (Date Signed): May 20, 2010

Form FHWA CA-358(c) Rev. 1/98 (Copy to CT)

Risk Level 1 Projects

- ◆ Ongoing Projects with a SWPPP and NOC
 - ✧ Grandfathered Risk Level 1, until September 2, 2011.
 - ✧ Issue Contract Change Order
 - ★ Update specification reference to new CGP
 - ★ Soil stabilization and sediment control for inactive areas (14 days)
 - ★ Year-round soil stabilization and sediment controls for DSA and stockpiles
 - ★ Compensation to Contractors for additional soil stabilization and sediment control requirements.



Risk Level 1 Projects (cont'd)

- ◆ Ongoing Projects with a SWPPP and NOC
 - ✧ Attach Updated information to Project SWPPP
 - ★ Reference new CGP
 - ★ Soil stabilization and sediment control for inactive areas (14 days)
 - ★ Year-round soil stabilization and sediment controls for DSA and stockpiles
 - ★ Construction Site Monitoring Program
 - ★ Weekly site inspections and complete inspection checklist by Caltrans Staff (see SWPPP/WPCP Preparation Manual for inspection checklist)

Risk Level 2 and 3 Projects

- ◆ Ongoing Projects with a SWPPP and NOC
 - ✧ Contractor must provide qualified SWPPP developer
 - ✧ Require Rain Event Action Plan (REAP) – 48 hours prior to a forecasted 50% chance of precipitation
 - ✧ Sampling of stormwater discharges for pH and turbidity for qualifying rain events
 - ✧ For Risk Level 3 projects, sampling of receiving water when NEL is exceeded

Risk Level 1 BMP Requirements

The Permit identifies 5 categories of year-round minimum BMPs:

1. Good site management / housekeeping
2. Non-Stormwater Management
3. Erosion Control
4. Sediment Controls
5. Run-on / Run-off Controls

Risk Level 1 BMP Requirements

1. Good Site Management “Housekeeping”

Construction materials

- ✧ Cover stockpiled materials that are not actively being used
- ✧ Store chemicals in watertight containers
- ✧ Implement Tracking Control

2. Waste Management

- ✧ No rinse or wash materials on to impervious surfaces
- ✧ Contain portable toilets
- ✧ Clean or replace sanitation facilities and inspect for leaks and spills
- ✧ Cover waste containers at end of day and before rain
- ✧ Prevent discharges from waste disposal containers
- ✧ Watertight concrete wash-out areas
- ✧ Contain and securely protect stockpiled waste material
- ✧ Implement procedures to address hazardous and non-hazardous spills
- ✧ Spill response

Risk Level 1 BMP Requirements

1. Good Site Management “Housekeeping” (Continued)

Vehicle Storage and Maintenance

- ✧ No changes to existing BMPs

Landscape Materials

- ✧ **Contain stockpiled materials when not actively being used**
- ✧ Contain fertilizers and other landscape materials when not actively being used
- ✧ Discontinue application of erodible landscape materials 2 days prior to rain
- ✧ **Store landscape material on pallets and cover**

Potential Pollutant Sources

- ✧ Identification of pollutants and non-visible pollutant SAP.

Air Deposition of Site Materials and From Site Operations

- ✧ Limit such particulates as sediment, nutrients, trash and bacteria

Risk Level 1 BMP Requirements

2. Non-Stormwater Management

- ✧ Implement measures to control all non-stormwater discharges
- ✧ Wash vehicles in such a manner to prevent discharges to surface water or MS4 drainage system
- ✧ Clean streets in such a manner to prevent discharges to surface water or MS4 drainage system

3. Erosion Control

- ✧ Implement effective wind erosion control
- ✧ Provide effective soil cover for inactive areas and all finished slopes
- ✧ Limit the use of plastic materials when more sustainable , environmentally friendly alternatives exist

Risk Level 1 BMP Requirements

Sediment Controls

- ✧ Establish and maintain effective perimeter controls to sufficiently control erosion and sediment discharges from the site
- ✧ Stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site
- ✧ When sediment basins are designed, at minimum, according to the method in the CASQA's Construction BMP Guidance Handbook

5. Run-on and Run-off Controls

- ✧ Effectively manage all run-on, all run-off within the site and all run-off that discharges off the site.
- ✧ Run-on from off site shall be directed away from disturbed soil areas

Risk Level 1 Requirements

Qualified SWPPP Developer (QSD)

- ✧ Resident Engineer for grandfathered projects
- ✧ Contractor must provide QSD for projects with new SWPPP specification

Qualified SWPPP Practitioner (QSP)

- ✧ Resident Engineer for grandfathered projects
- ✧ WPC Manager will need to meet the requirements of QSD, and therefore will meet the requirements of QSP, on projects with new SWPPP specification

Water Pollution Control Manager

- ✧ No new requirements for grandfathered projects
- ✧ Must meet the requirements for Qualified SWPPP Developer for projects with new SWPPP specification

Risk Level 1 Requirements

Construction Site Monitoring Program

Visual Site Monitoring Program

- Weekly (Attachment H or CEM-2030)
- Quarterly Non-stormwater Discharge
- Prestorm
- Daily during storm
- Post Storm

Stormwater Sampling and Analysis

- Non-visible Pollutants

Risk Level 1 Reporting Requirements

Notice of Construction

- ✧ Minor changes have been made to the form

Notice of Discharge

- ✧ Shall continue to report discharges to RWQCBs

Notice of Construction Complete

- ✧ Changes to reporting form

Stormwater Annual Report

- ✧ Project annual reports required September 2011

Implementation of the New CGP

Stormwater Specifications (July 2010)

- ✧ SSP 07-345 Water Pollution Control (SWPPP)
- ✧ SSP S5-630 Relations with California Regional Water Quality Control Board
- ✧ SSP 07-346 Construction Site Management
- ✧ SSP 07-340 Water Pollution Control (WPCP)

<http://www.caltrans.ca.gov/hq/esc/oe/standards.php>

Project Planning and Design Guide (PPDG) (July 2010)

Storm Water Data Report (SWDR) (July 2010)

<http://www.dot.ca.gov/hq/oppd/stormwtr/index.htm>

Construction Stormwater Forms

◆ List of newly developed forms:

- ✧ CEM-2002 Notification of Construction
- ✧ CEM-2004 Notification of Construction (Desert Areas)
- ✧ CEM-2005 Notification of Rainfall Erosivity Waiver
- ✧ CEM-2006 Legally Responsible Person Authorization of Approved Signatory
- ✧ CEM-2008 SWPPP/WPCP Amendment Certification and Acceptance
- ✧ CEM-2009 SWPPP/WPCP Amendment Log
- ✧ CEM-2023 Stormwater Training Record
- ✧ CEM-2024 Stormwater Training Log
- ✧ CEM-2030 Stormwater Site Inspection Report
- ✧ CEM-2035 Stormwater Site Inspection Report Corrective Actions Summary

Construction Stormwater Forms

✧ CEM-2034	Stormwater Best Management Practices Status Report
✧ CEM-2040	Weather Forecast Monitoring Log
✧ CEM-2041	Weather Monitoring Log
✧ CEM-2045	Rain Event Action Plan Highway Construction Phase
✧ CEM-2046	Rain Event Action Plan Plant Establishment Phase
✧ CEM-2047	Rain Event Action Plan For Inactive Project
✧ CEM-2048	Storm Event Sampling and Analyses Plan
✧ CEM-2049	Qualifying Rain Event Sampling and Analyses Plan
✧ CEM-2050	Sample Information, Identification, and Chain-of-Custody Record
✧ CEM-2051	Stormwater Sampling and Testing Summary Log
✧ CEM-2052	Stormwater Sample Field Test Report

Construction Stormwater Forms

✧ CEM-2054	Stormwater Sample Laboratory Test Report
✧ CEM-2055	Stormwater Equipment Maintenance Log
✧ CEM-2056	Stormwater Turbidity Meter Calibration Record
✧ CEM-2057	Stormwater pH Meter Calibration Record
✧ CEM-2058	Stormwater Meter Calibration Record
✧ CEM-2061	Notice of Discharge Report
✧ CEM-2062	Numeric Action Level Exceedance Report
✧ CEM-2063	Numeric Effluent Limitation Violation Report
✧ CEM-2065	Notice of Discharge Log
✧ CEM-2070	SWPPP/WPCP Annual Certification of Compliance
✧ CEM-2090	Notice of Completion of Construction

Forms are available from the Division of Construction website at:

<http://www.dot.ca.gov/hq/construc/forms.htm>

Construction Stormwater Guidance

◆ Coming soon..

- ✧ Updated SWPPP Template
- ✧ SWPPP and WPCP Preparation Manual
- ✧ Construction Site Monitoring Program Guidance Manual
- ✧ Construction Site Monitoring Program Guidance Manual

Manuals are available from the Department's Construction Storm Water and Water Pollution Control web site at:

<http://www.dot.ca.gov/hq/construc/stormwater/stormwater1.htm>

Water Quality Dispatch

Water Quality Dispatches
available at:

[http://www.dot.ca.gov/hq/env/
stormwater/publicat/wqdispat
ch/index.htm](http://www.dot.ca.gov/hq/env/stormwater/publicat/wqdispatch/index.htm)



Water Quality Dispatch

Published by the California Department of Transportation, Division of Environmental Analysis, Office of Stormwater Program Implementation
September 22, 2010
Number 10-03

CGP Requires Year-Round Perimeter Controls

Construction projects are now required to install and maintain effective temporary sediment perimeter controls year-round. Inactive stockpiles must have temporary sediment perimeter controls. Typical perimeter controls are silt fence and fiber rolls. There may be some conditions where gravel bag berms or straw bales are used for perimeter control.

The perimeter control requirement also applies to inactive stockpiles at the project site. Inactive stockpiles are defined as stockpiles that are not scheduled to be used for at least 14 days. Periodic inspection and removal of accumulated sediment is necessary to maintain the effectiveness of perimeter control BMPs.

Temporary Perimeter Control: Inspection and Maintenance

- **INSPECT** sediment control BMPs before, during, and after each storm event, and weekly year-round.
- **CORRECT** a specific deficiency if found during the site inspection. Include necessary corrective action on the inspection checklist or stormwater site inspection report.
- **MAINTAIN** BMPs by removing sediment as required by the contract special provisions. Typically, sediment should be removed when the accumulated depth reaches one-third of the barrier height or original volume.

Guidance

Construction Procedure Directive (CPD) 10-4 provides guidance and Contract Change Order (CCO) language to implement the new CGP on going projects, including year-round soil stabilization and sediment control best management practices in place of current rainy season requirements. <http://www.dot.ca.gov/hq/construct/CPDdirectives/cpdindex.htm>.

Standard Special Provisions (SSP) 07-345, **Water Pollution Control**, has been revised to incorporate the new requirements of the CGP. Projects advertised after July 1, 2010, covered by the new CGP, will include this revised SSP. http://www.dot.ca.gov/hq/ese/specifications/SSPs/2006-SSPs/Updates/2010-06_updates/

Water Quality Dispatch is a periodic update of stormwater and related water quality news for the Department. Verify information before taking action on these bulletins. WQdispatch@dot.ca.gov or call (916) 653-3738 with questions or suggestions for new topics. Posted online: <http://www.dot.ca.gov/hq/env/stormwater/publicat/index.htm>

Questions

